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Goddard Space Flight Center

Inside Wallops

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NASA ER-2 Flies High

A NASA ER-2 aircraft, complete with a full array of science instrument packages, recently conducted its first operational mission at an altitude of 70,000 feet, a key region for atmospheric research.

A program to modernize the vehicles by making them lighter, more fuel efficient and more productive was completed recently.

Over the next year, these improvements will increase significantly the size of science payloads and enhance the altitude performance of the ER-2s in support of NASA's Mission to Planet Earth enterprise.

An ER-2 will make its annual visit to Wallops to conduct East Coast missions in August.

Mother Nature Keeping Cities Cool

Using space-age technology, NASA researchers are studying how "urban forests" may allow cities to continuously grow while maintaining air quality and the environment, as well as lowering cooling costs during sweltering summer months.

Collaborating with ten Atlanta schools, the Atlanta Regional Commission and the Environmental Protection Agency, two Marshall Space Flight Center researchers began a study in Atlanta last week to learn how rapid urbanization affects temperature and air quality, and what can be done to lessen the impact.

The researchers, Dr. Jeff Luvall and Dr. Dale Quattrochi, are studying bubble-like accumulations of hot air, called urban heat islands, that have developed as Atlanta has grown during the past 20 years.

"Urban heat islands result when naturally vegetated surfaces are replaced with asphalt, concrete, rooftops and other man-made materials," said Quattrochi.

According to Quattrochi, temperatures of artificial surfaces can be 20 - 40 degrees higher than those of vegetated surfaces.

"The more a city grows -- replacing trees and grass with buildings and roads -- the warmer it becomes, increasing peak power demands," said Luvall.

To determine where Atlanta's hot spots are, a Lear Jet equipped with thermal imaging equipment flew over the metropolitan area May 11 and 12 taking heat images at mid-day — the period of maximum heating — and again 12 hours later when surfaces began to cool.

On the ground, some Atlanta elementary students took part in the experiment by taking temperature and moisture readings of different surfaces at their schools in conjunction with the mid-day flight. The students will compare and verify their measurements with those recorded by instruments on the jet.

Information collected for the air study will allow researchers to understand the effect of tree cover — or lack thereof — on Atlanta's temperature and air quality. These findings also will provide Atlanta's urban planners a foundation to determine the benefits of developing and maintaining urban forests.

Suborbital Flights Continue in Alaska and New Mexico

Three Wallops suborbital flights in Alaska and New Mexico, May 7 and 8, continued the string of successes in the sounding rocket and scientific balloon programs.

A 39.57 million cubic foot (MCF) balloon carrying a high energy astrophysics payload to study black hole binary X-ray sources was successfully flown May 7 from Ft. Sumner, NM. The principal investigator was Dr. Jonathan Grindlay from the Harvard College Observatory.

The following day in Fairbanks, AK, a 23.5 MCF balloon carrying an upper atmosphere research payload for Dr. Geoffrey Toon from the Jet Propulsion Laboratory was successfully flown. This marked the 10th consecutive successful mission for the balloon program. The purpose of the experiment was to use spectrometers to conduct correlative measurements to provide basis for calibrating the ADEOS TOMS, IMG and ILAS instruments. Both balloon payloads were recovered.

A Black Brant IX sounding rocket carrying a payload for Dr. Supriya Chakrabarti from Boston University was successfully flown May 8 from the White Sands Missile Range, NM. The mission may lead to new information on how ultraviolet light interacts with interstellar dust as well as the behavior of the dust within star forming regions. The payload was recovered. The project manager was Frank Lau (Code 832). This flight marked the 15th consecutive mission success for the sounding rocket program.

Do You have the "Right Stuff?"

NASA is accepting applications for mission specialist and pilot astronauts for the current selection cycle until July 1, 1997.

Successful pilot applicants typically have extensive piloting experience in high performance jet aircraft and flight experience.

Successful applicants for the mission specialist positions typically have significant backgrounds in engineering or the sciences.

An application package may be obtained by calling the Astronaut Selection Office at (281) 483-5907.

Health Tips
by Dianne B. Hargrove, R.N.

The modern bicycle has progress from a relatively simple design to a highly sophisticated, carefully engineered means of transportation, exercise and recreation.

Each year several hundred bicyclists die in traffic crashes. Riders can reduce the incidence of head trauma by simply wearing helmets. The following are rules for bicycle safety.

Protect your head--wear a helmet.

When buying a helmet, ensure that the shell is of rigid construction and free of projections. The inside should be lined with a firm, energy absorbent material such as polystyrene foam.

The helmet should have a suitable chin strap and fastener to hold it firmly in place. It should fit snugly, sit low on the forehead and always be buckled. Don't buy a used helmet.

See and be seen.

For a bike to be safe it should have a horn or bell, lights in front and back, a mirror, a red rear reflector, a white front reflector, a red or colorless spoke reflector on the rear wheel, an amber or colorless reflector on the rear wheel, an amber or colorless spoke reflector on the front wheel and pedal reflectors.

Learn the correct way to hand signal turns and stops. Ride single-file and never ride double on one bike unless it is a tandem bike. Never hitch a ride on any vehicle.

Avoid biking at night.

If you must bike at night: ride with reflectors that meet safety requirements; add the brightest lights you can find to the front and rear of the bike; wear retro-reflective clothing or material, especially on the ankles, wrists, back and helmet; and ride only in familiar areas.



Stay alert.

Keep a sharp lookout for obstacles that can cause a fall, such as potholes, cracks, wet leaves and drainage grates. Do not ride close to parked cars and doors that open suddenly. Never wear headphones while riding.

Go with the flow.

Ride on the right side of the roadway in a straight path, don't swerve. Travel single file in the same direction as other vehicles.

Check for traffic.

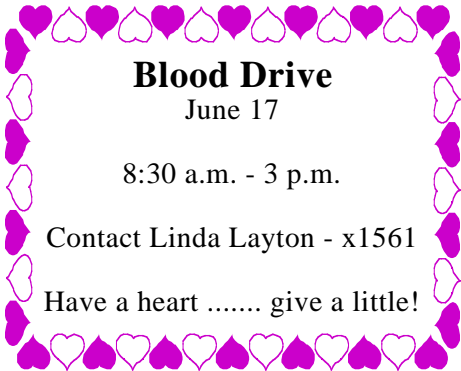
Give cars and pedestrians the right-of-way. Always look left-right-left, and walk the bicycle into the street. If already in the street, look behind you for a break in traffic, then signal before going left or right. Watch for left- or right-turning traffic.

Obey traffic laws.

Bicycles are considered vehicles and must obey the same rules as motorists.

Assure bicycle readiness; make sure your bicycle is adjusted properly.

Choose the bike and helmet that is best for the type of riding you plan to do. Before riding, check to see that all bicycle parts are secure and working. Add a carrier to the back of the bicycle if planning to carry things.



Blood Drive
June 17

8:30 a.m. - 3 p.m.

Contact Linda Layton - x1561

Have a heart give a little!



Although Memorial Day is officially May 30, the Federal holiday will be observed May 26.


Monthly Morning Coffee

As a part of "Focus on Our Future" Day, employees are invited to join Arnold Torres and other senior staff members for the regular monthly morning coffee May 21 at 8 a.m. in the N-159 Hangar.

Upcoming WEMA Events.....

70's Night
June 6
DJ & Refreshments
Bldg. F-3, 8 p.m.
\$5 per person
Dave Smith x1316
Bob Tittle x1244

**Mike Tyson vs.
Evander Holyfield**
June 28
Bldg. F-3, 8 p.m.
Bob Tittle x1244



Lunch Time Aerobic Class

Monday, Wednesday and Friday - Aerobics

Tuesday and Thursday - Toning

Anyone interested should call Donna Smith, x1346.

Steak/Shrimp Dinner
June 14
Bldg. F-3, 6 p.m.
\$15 per person
(Advance Ticket Sales Only)
Terry Ewell x113,
Charlotte Williams x1483

Wallops Golf League
Tuesday Evenings
Winter Quarters
Call Mark Cording, x1310
for information

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